



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,256	01/22/2002	Anders Dale	HGS-004	6746
959	7590	08/01/2006	EXAMINER	
LAHIVE & COCKFIELD 28 STATE STREET BOSTON, MA 02109			ROY, BAISAKHI	
			ART UNIT	PAPER NUMBER
			3737	

DATE MAILED: 08/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/055,256

Applicant(s)

DALE ET AL.

Examiner

Baisakhi Roy

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 46-48, 50-52, 54-58 and 69-99 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 46-48, 50-52, 54-58 and 69-99 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, with respect to the rejection(s) of claim(s) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 46-48, 50-52, 54-58, and 69-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over deCharms (2002/0103428) in view of Sosa et al.

(2003/0093004). deCharms discloses a system and method for obtaining information regarding a subject by using a magnetic resonance scanner, an atlas comprising values representative of the magnetic property of a spatial location of a subject, a processor adapted to receive information from the scanner and configured to read the atlas to determine volumetric measurements of organ structures of the subject, and determining alignment of the MR scan based on the atlas ([0160] [0164] [0167] [0178] [0326-0330]). deCharms teaches said atlas to include a plurality of nodes with each node including statistical information such as mean and variance derived from a number of subjects of

Art Unit: 3737

a specific population and for a specific scanner model for a specific magnetic resonance sequence ([0180] [0256] [0264] [0270] [0326] [0328] [0329] [0439] [0465] [0471] [0485] [0525] [0625]). deCharms teaches a system and method for obtaining information regarding a subject, as set forth above, by providing magnetic property values corresponding to tissue types and subject, labeling tissue types corresponding the magnetic resonance property values pertaining to the subject by the use of the atlas having said MR values derived from other subjects, providing and recording a magnetic property value in a node of the atlas corresponding to a voxel of said first magnetic resonance modality volume. The reference further teaches correcting distortion of the each of the magnetic resonance modality volumes caused by motion during acquisition ([0260] [0449]).

deCharms discloses an atlas comprising a value representative of a magnetic property of a spatial location of a subject with said value corresponding to a tissue type proton density, T1, and T2 value ([0188-0189] [0193] [0221] [0264] [0459-0460] [0525] [0619-0620]). deCharms further teaches said value to correspond to a diffusion tensor imaging and a T2\* value ([0377] [0460] [0525] [0645]). deCharms teaches said atlas comprising values representative of a statistical representation of a magnetic property of a plurality of spatial locations of a plurality of subjects with said statistical representation to include a mean, variance, probability values of a tissue type at each corresponding spatial location of the subjects ([0346] [0354] [0376] [0414] [0435] [0439] [0441] [0465] [0467] [0471] [0485] [0614-0615]). deCharms teaches said values of a statistical representation to be scanner-specific, ([0180] [0189] [0256] [0264] [0270] [0326] [0328]

Art Unit: 3737

[0329]). deCharms teaches said values of a statistical representation to include a value from TR, TE, and flip angle ([0270] [0628]).

deCharms do not explicitly teach creating an *a priori* nodal atlas as claimed. In the same field of endeavor Sosa et al. disclose a system and method for obtaining a three-dimensional map of the probability of the brain or heart based on electric and or magnetic signals measured in the surface of body and statistical descriptive parameters are obtained from the signals and a map of its distribution is calculated. Sosa et al. teach obtaining information about a subject by providing an *a priori* nodal atlas having MR data including more than one magnetic property value for each of the voxels or at least one magnetic property value at least one tissue type prior probability value corresponding to a tissue type of a voxel ([0132] [0152] [0154] [0236] [0240] [0251] [0254] [0258] [0263] [0265] [0268] [0272] [0284-0286]). It would have therefore been obvious to one of ordinary skill in the art to use the teaching by Sosa et al. to modify the teaching by deCharms for the purpose of effectively determining the probability that a tissue type belongs to a test group ([0132]).

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baisakhi Roy whose telephone number is 571-272-7139. The examiner can normally be reached on M-F (7:30 a.m. - 4p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3737

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BR

BR

  
BRIAN L. CASLER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700